









Wetland Delineation Report – 2008 Concord Expansion Project Pelham and Concord, New Hampshire

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1.0 Introduction

Tennessee Gas Pipeline Company ("Tennessee") is filing with the Federal Energy Regulatory Commission ("FERC" or "Commission") an Application for a Certificate of Public Convenience and Necessity for the Concord Expansion Project in Hillsborough and Merrimack Counties, New Hampshire to deliver 30,000 dekatherms per day ("Dth/d") of firm natural gas transportation service to Energy North Natural Gas, Inc. d/b/a KeySpan Energy Delivery New England ("KeySpan"). Tennessee's proposed Concord Expansion Project ("the Project") involves the construction of a 6,130 horsepower ("hp") compressor station in Pelham, New Hampshire and upgrade of the existing Laconia Meter Station in Laconia, New Hampshire. The Laconia Meter Station piping will be replaced with larger diameter piping sized to handle the incremental 30,000 Dth/d of capacity. The anticipated in-service date is November 2009.

This report presents the results of the wetland field surveys at the Pelham Compressor Station site in Pelham, New Hampshire and the Laconia Meter Station site in Concord, New Hampshire. Section 2.0 identifies the Project locations and summarizes the proposed construction activities and land requirements at each site. Section 3.0 describes methodologies ENSR followed to complete the wetland surveys and document wetland boundaries. Section 4.0 provides a brief description of the delineated resource areas, based on the field surveys and review of existing baseline information complied from United States Geologic Survey ("USGS") topographic maps, National Wetlands Inventory ("NWI") maps, and USDA - Natural Resources Conservation Service ("NRCS", formerly the Soil Conservation Service) soil maps. The findings of this report are summarized in Section 5.0. Section 6.0 cites documents used in the preparation of this report.

This report has been prepared for the benefit of federal, state, and local agencies involved in the NEPA review and permitting phase of the Concord Expansion Project. Emphasis is placed on identifying and describing United States Army Corps of Engineers ("ACOE") jurisdictional wetlands and ACOE waterbodies. State and local wetland jurisdictional issues are also reviewed.

2.0 Proposed Activities

The Project locations, proposed facilities, and land requirements are discussed below. Accompanying this report are site locus figures in Appendix A and aerial-based wetland plans in Appendix B. The wetland plans show the general layout of the proposed facilities and temporary workspace relative to the delineated wetland and watercourse boundaries. Both figures and plans are Non-Internet Public per FERC's document control requirements.

The proposed aboveground facilities associated with the Concord Expansion Project are listed in Table 2.0-1. These facilities are conceptual in nature and are subject to final design and FERC approval.

	PROPOSED AF	TABLE 2.0-1 BOVEGROUND FAC ORD EXPANSION P		37
Proposed Facility	New / Modified	Approximate Milepost ^a	Town	County, State
Compressor Station 270B	New	9.51 – 9.56	Pelham	Hillsborough, New Hampshire
Laconia Meter Station	Modified	15.04 – 15.13	Concord	Merrimack, New Hampshire

^a Milepost location is based upon the existing TGP Line 200

2.1 Aboveground Facilities

Tennessee proposes to design and operate the proposed compressor station using the same or similar techniques that have been applied to successfully design, construct, and operate its existing compressor stations in New England. Key elements of the Compressor Station design would be the installation of gas turbines incorporating Best Available Control Technology ("BACT") and the construction of a station that will be aesthetically compatible with the existing surroundings.

2.1.1 Compressor Station 270B1 - Pelham, NH

Compressor Station 270B will be installed to increase the natural gas throughput of the existing downstream pipeline by boosting the pressure of the natural gas up to the current MAOP of 750 pounds per square inch gauge ("psig"). The increase of pipeline gas pressure will be accomplished through the installation of one, 6,130 hp turbine driven centrifugal compressor (Solar Centaur 50L) unit. The turbo-compressor will be fueled by natural gas and equipped with a "lean pre-mix" dry low nitrogen oxide ("NOx") combustors to limit NOx, carbon monoxide ("CO") and particulate matter ("PM") emissions to less than BACT levels. The associated facilities include a unit control building, station maintenance / control building, emergency electrical power generator, a domestic gas building plus parking and access areas.

2.1.2 Laconia Meter Station - Concord, NH

Tennessee proposes to modify the piping at its existing Laconia Meter Station located in Concord, Merrimack County, New Hampshire to accommodate the additional gas capacity generated by the proposed Compressor Station 270B1. Tennessee proposes to replace a total of approximately 60 feet of existing six inch and four inch pipe from Line 273C-100 to the Concord Meter Station at the Laconia Measuring facility with 12-inch pipe. Additionally, piping will be installed between Lines 273C-100 and Line to serve as a tie-over line to ensure continued service in the event of outages on the primary Line. All of the piping shall be located within the existing, fenced meter station compound. There will be no permanent expansion of the facility footprint.

2.1.3 Temporary Facilities

2.1.3.1 Equipment Storage Yards and Contractor Yards

During construction of the proposed Compressor Station 270B, Tennessee anticipates the use of the site property for both the contractor yard and storage of materials.

2.1.3.2 Access Roads

Access roads are required for construction so the contractor may move personnel, equipment and material to the compressor station site. Tennessee proposes to construct a new access road, approximately 1,000 feet in length, from Industrial Park Road along the existing ROW to the Compressor site. No temporary access roads are needed or proposed.

3.0 Methodology

3.1 Survey Areas

Tennessee contracted ENSR to delineate wetlands and watercourses at the Project locations for the Concord Expansion Project. The surveys areas are reviewed below.

3.1.1 Pelham, NH

ENSR performed field surveys for wetlands and waterbodies on the proposed Compressor Station 270B1 property consisting of an 11.6-acre parcel owned by Tennessee adjacent to an existing industrial park in the town of Pelham, New Hampshire. Construction on the property will also include a new 1,000 foot long access road.

3.1.2 Concord, NH

ENSR performed field surveys for wetlands and waterbodies on the existing Laconia Meter Station property consisting of a one half acre parcel owned by Tennessee in Concord, New Hampshire.

3.2 Federal and State Wetland/Watercourse Jurisdictions

3.2.1 Section 404 - Clean Water Act

Wetlands, springs, and other waters of the U.S. are regulated under Section 404 of the Clean Water Act and through a permit process administrated by the ACOE. Federally jurisdictional wetlands include interstate wetlands, wetlands adjacent to waters of the U.S., and intrastate wetlands whose degradation or destruction could affect interstate or foreign commerce as per the application of 33 CFR 328. According to the 1987 Wetland Delineation Manual (ACOE 1987), areas must exhibit three distinct characteristics to be considered wetlands:

- The prevalent vegetation must consist of plants adapted to life in hydric soil conditions. These species, due to morphological, physiological, and/or reproductive adaptations, can and do persist in anaerobic soil conditions:
- Soils in wetlands must be classified as hydric or they must possess characteristics that are associated with reducing soil conditions; and
- The area must be inundated either permanently or periodically at mean water depths less than 6.6 feet (2 meters) or the soil saturated at the surface for some time during the growing season of the prevalent vegetation.

It is ENSR's understanding that per the U.S. Supreme Court ruling in *Solid Waste Agency of Northern Cook County V. Army Corps of Engineers*, the ACOE can make a determination that a wetland is non-jurisdictional if it finds that the area does not support migratory bird or endangered species habitat and does not connect to an intrastate water. This determination is made through a process initiated by the Applicant. No such determination has been sought by Tennessee for the wetland identified on the Compressor Station 270B1 site.

3.2.2 New Hampshire Freshwater Wetlands Regulations

Pursuant to RSA 482-A the New Hampshire Department of Environmental Services ("NHDES") regulates all work in freshwater wetlands, lakes, ponds, rivers and streams. The New Hampshire Wetlands Program delineates wetlands according to the 1987 Federal Manual for Indentifying Jurisdictional Weltands and the Field Indicators for Identifying Hydric Soils in New England. These manuals use the combination of the presence of three criteria; hydrology, hydric soil and vegetation. Under RSA 482-A, any municipality may undertake to designate, map and document prime wetlands lying within its boundaries. Prime wetlands are areas with high value functions which are mapped by the town and approved by the NHDES. Prime wetlands have additional protection under RSA 482-A, which states "no permit shall be issued unless evidence is provided that there shall be no net loss of values to those areas". The Compressor Station 270B1 is not located within or adjacent to any prime wetlands designated by the Town of Pelham.

The New Hampshire state statutes are implemented by the Town of Pelham Zoning Ordinance (as amended March 1994). Under Article II, definitions, a wetland is "an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions, does support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include, but are not limited to, swamps, marshes, bogs, and similar areas."

For activities under local jurisdiction, the Pelham regulations cover wetland areas of 2,000 square feet or more in size, or of any size if contiguous to surface waters such as lakes, ponds and streams, and all areas within fifty feet of the edge of any wetlands, perennial stream or surface water body. Pursuant to the Pelham regulations, "Wetlands shall be delineated by either a certified soil scientist or a professional wetland scientist according to the Corps of Engineers Wetlands Delineation Manual, 1987, and the Regional Field Indicators for Identifying Hydric Soils in New England, 1995."

3.3 Wetland Delineation Procedures

The wetland delineation methodology outlined in the ACOE Wetlands Delineation Manual (Environmental Laboratory 1987) was used to identify and delineate wetlands at the subject properties identified in Section 3.1. A review of existing mapping was conducted prior to the execution of field surveys.

3.3.1 Resource Information Review

Prior to conducting the field surveys, ENSR reviewed the following background information to determine the potential extent of wetlands in the survey area:

3.3.1.1 Pelham, NH

- 1. USGS topographic quadrangles (Windham and Nashua North, NH)
- 2. National Wetland Inventory Maps (Windham and Nashua North, NH)
- Natural Resource Conservation Service Web Soil Survey Data for Hillsborough County, NH;
 Eastern Part and Rockingham County, NH
- 4. Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Map (Community Panel 330100 0001 B, Effective Date March 14, 1880)

3.3.2 Field Survey

ENSR performed field surveys on the Project site in July of 2007 according to the ACOE Wetlands Delineation Manual (Environmental Laboratory 1987), New Hampshire Freshwater Wetlands Regulations and the Pelham Zoning Ordinance. Vegetation, soils, and hydrology data was assessed during the field surveys to determine whether the three wetland criteria were satisfied within each suspect wetland area. Wetlands were classified as palustrine forested ("PFO"), palustrine scrub-shrub ("PSS"), or palustrine emergent ("PEM") in accordance with Cowardin et al. (1979). ENSR used to the top of bank to demarcate the limits of a watercourse, when no wetlands were adjacent to the channel.

The specific methods for characterizing and evaluating vegetation, hydrology, and soils for a wetland determination were performed as follows:

Vegetation: Species abundance in both upland and wetland communities were visually estimated. Dominant trees and shrubs/saplings were recorded within a 30-foot and 15-foot radius, respectively, of the documentation plot. Dominant herbaceous vegetation was recorded within a 5-foot radius of the plot. ENSR identified plant species using appropriate botanical reference material for the region. The indicator status of each species was identified using the National List of Plant Species That Occur in Wetlands, Region1-Northeast (Resource Management Group 1999). Hydrophytic vegetation was determined to be present where greater than 50 percent of the dominant species were classified as facultative ("FAC+" or "FAC"), facultative wetland ("FACW"), or obligate ("OBL").

Soils: For each documentation plot, ENSR characterized the soil profile to determine the area's hydric soil status. Borings to observe the profile were taken with a hand-held auger and were taken to depths necessary to accurately determine a soil's hydric status (typically 18-24 inches deep). The information collected for each soil profile included each soil horizon's depth, texture, color, and the presence or absence of redoximorphic features (mottles). Colors of the soil matrix and mottles were identified using the Munsell Soil Color Charts. ENSR based all hydric soil determinations on criteria established in the ACOE Wetlands Delineation Manual (Environmental Laboratory 1987), along with Field Indicators of Hydric Soils in the United States (NRCS 2006) and Field Indicators for Identifying Hydric Soils in New England (NEIWPCC 2004). Additionally, ENSR also noted the presence of any saturation and/or standing water encountered during the soil profile description.

Hydrology: Site hydrology was evaluated during field surveys by noting whether the soil at the surface was inundated or saturated. If the ground surface was dry, the depth to freestanding groundwater or saturated soil was measured and the presence or absence of other field evidence of wetland hydrology (e.g., drift lines, water-stained leaves, etc.) was noted. The wetland hydrology criterion was met if one or more primary or two or more secondary field indicators were present (Environmental Laboratory 1987).

Wetland and watercourse flag positions and data point locations were field located by Tennessee's survey engineering contractor at the Pelham site during the spring/summer of 2007, and at the Laconia site in January of 2008. Plotting of the wetland boundaries was reviewed and confirmed by ENSR. The aerial-based wetland plans in Attachment B show the locations of the delineated resources relative to the proposed limits of the Concord Expansion Project.

Documentation of the wetland boundaries was taken at certain locations. This information was used to fill out wetland determination field datasheets included in Appendix C.

4.0 Survey Results

The results of the background information review and the field surveys are presented below. Appendix B contains aerial mapping that shows the delineated features in relation to the proposed project areas.

4.1 Compressor Station 270B1

ENSR wetland scientists conducted biological field surveys of the Project area in July of 2007, to delineate wetlands, waterbodies, or permanently flooded bodies of water at the Project site. The Project site is located north of Industrial Park Drive and is bordered on the north by Beaver Brook. The parcel consists of upland forest, with a gentle slope toward a wetland associated with the bank of Beaver Brook. The upland forest type on the parcel consists of Appalachian Oak-Pine forest system, dominated by Eastern white pine (*Pinus strobus*), white oak (*Quercus alba*), scrub oak (*Quercus ilicifolia*), red maple (*Acer rubrum*), and Eastern hemlock (*Tsuga Canadensis*).

ENSR delineated one wetland complex on the 11.6 acre site. Wetland 1 is a wetland complex consisting of PFO and PSS components along the north eastern property boundary line associated with the perennial channel of Beaver Brook. The limits of Wetland 1 are delineated with pink flagging labeled WF A-1 through WF A-52. The PFO component of the Wetland 1 was dominated by red maple, American elm (*Ulmus americana*), and Eastern white pine. Shrubs and saplings present included black cherry (*prunus serotina*), red oak (*Quercus rubra*) and speckled alder (*Alnus rugosa*). Ferns present in the herbaceous layer included cinnamon fern (*Osmunda cinnamomea*), marsh fern (*Thelpteris simulata*), and sensitive fern (*Onoclea sensibilis*). The preliminary design of the Compressor Station 270B1 has sited all proposed workspace areas outside of delineated wetland resources as well as the 50-foot buffer bordering these wetlands. The proposed Project does not involve crossing of Beaver Brook or any other waterbody.

4.2 Laconia Meter Station

ENSR wetland scientists conducted biological field surveys of the Project area on January 10, 2008, to delineate wetlands, waterbodies, or permanently flooded bodies of water at the Project site. The Laconia Meter Station is located on the northeast side of Broken Bridge Road in Concord, NH. The area surrounding the facility consists of maintained lawn with a vegetated fringe of Eastern white pine and black cherry. East of the existing meter station, the property steeply transitions to an extensive bordering vegetated wetland system comprised of red maple, Eastern hemlock, and Eastern white pine. This wetland system continues to the southeast toward the Suncook River. ENSR delineated two wetlands (Wetland A and Wetland B) along the Project area, which consisted predominantly of PEM and PFO wetland cover types.

Wetland A is located east of the existing meter station and consists of both PEM and PFO cover types. It includes a small section of the maintained ROW and later transitions southeast to the Suncook River. The limits of Wetland A are delineated with pink flags labeled A-1 to A-12. The PFO wetland located to the east of the meter station is comprised of red maple, Eastern white pine, and Eastern hemlock. The PEM portion of the wetland system is vegetated with sensitive fern, skunk cabbage (Symplocarpus foetidus), and Northern arrowwood (Viburnum recognitum).

Wetland B is located south of the existing meter station, directly south of Broken Bridge Road. This wetland consists of PFO cover, and is dominantly vegetated with red maple, grey birch (*Betula papyrifera*), Eastern white pine, and Northern arrowwood. The limits of Wetland B are delineated in the field with pink flags labeled B-1 to B-5.

The preliminary design of the Laconia Meter Station modifications has sited all proposed workspace areas outside of delineated wetland resources as well as the 50-foot buffer bordering these wetlands. The proposed Project does not involve crossing of any waterbody.

5.0 Summary and Conclusion

In July of 2007, ENSR delineated wetlands and watercourses at the proposed Concord Expansion Project site in Pelham and Concord, New Hampshire. Tennessee is proposing to construct a new compressor station in Pelham, NH. The Project site consists of existing permanent easement / fee property, proposed temporary workspace, proposed additional temporary workspace, a new compressor station and new access road. Tennessee is proposing modifications to the existing Laconia Meter Station in Concord, NH. The Project site consists of the existing meter station property.

ENSR made wetland determinations in accordance with the 1987 ACOE Wetlands Delineation Manual. No impacts to wetlands and watercourses are proposed for construction of the Project as currently designed and will not require permitting under the Federal and State regulatory frameworks, including Section 404 of the federal Clean Water Act administered by the United States Army Corps of Engineers, Section 401 of the federal Clean Water Act administered by the state of New Hampshire (Water Quality Certification), and the New Hampshire Freshwater Wetlands Regulations (RSA 482-A).

ENSR

As previously stated, the Project will not include temporary impacts to wetlands and watercourses in the vicinity of the Project site, the proposed project will be located outside of the delineated wetland resources and any impacts to the wetland from disturbed soils should be mitigated through implementation of the Federal Energy Regulatory Commission's Upland Erosion Control, Revegetation, and Maintenance Plan.

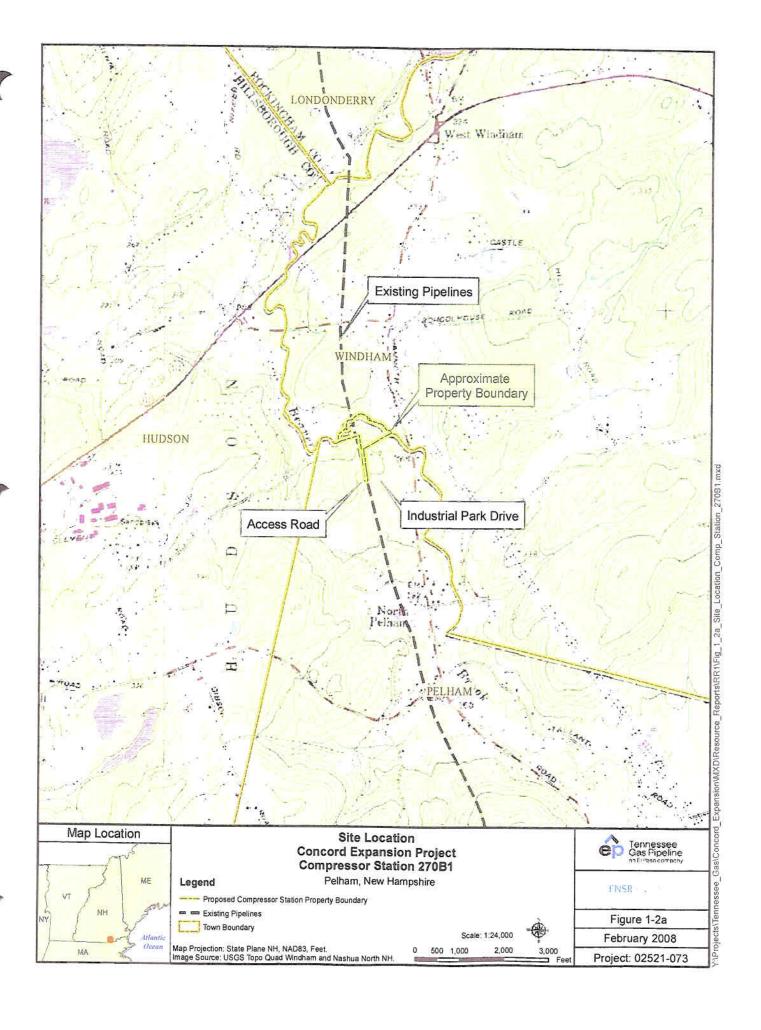


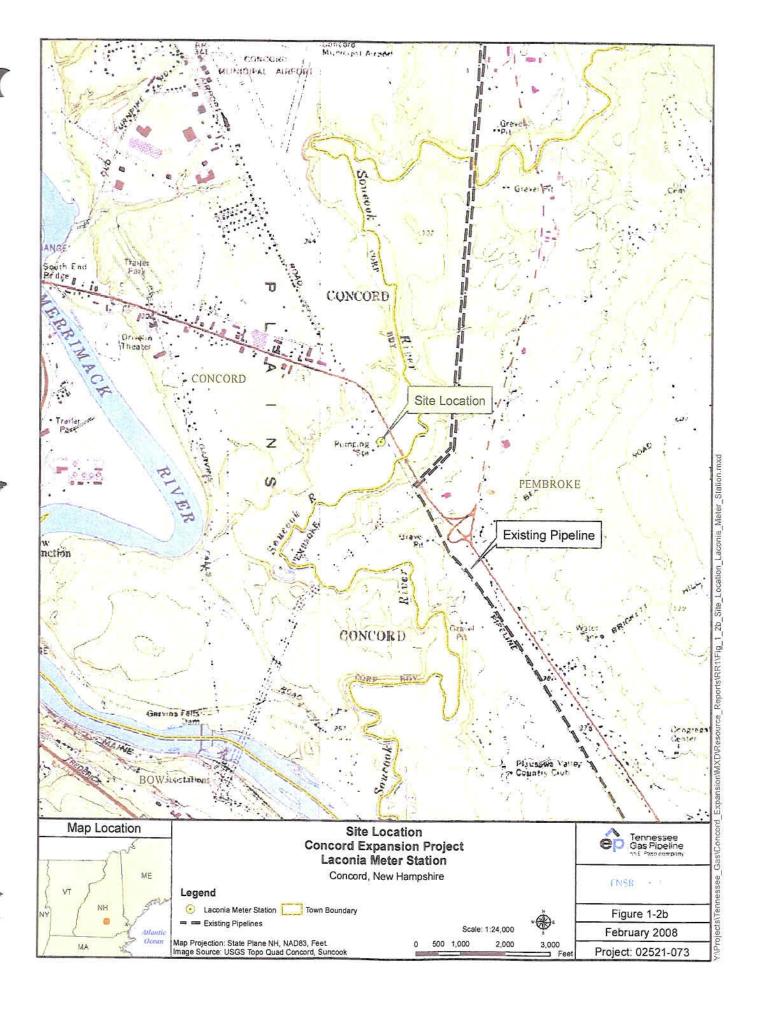
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- United States Department of Agriculture, Natural Resources Conservation Service. 2006. Field Indicators of Hydric Soils in the United States, Version 6.0. G.W. Hurt and L.M. Vasilas (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- USGS. Topographic Quadrangle Windham and Nashua North, N.H; Scale 1:24,000.

APPENDIX A

FIGURES





APPENDIX B

WETLAND DETERMINATION FIELD DATASHEETS

Applicant / Owner: Tennessee Gas Pipeline Company (Tennessee)					Plot ID: Wetland A			
				Transec	Transect ID: WF A-42			
County: Hillsbo	orough	State: New Hampsh	ire	Commu	Community ID: Upland			
Investigator: Jo	ohn Zimmer (ENSR)			Date of	Delineation: 07	7/11/07		
Do normal circu	mstances exist onsite?			Υe	es 🛛	No		
Is the site signifi	icantly disturbed (Atypical si	tuation)?		Ye	s 🗆	No	\boxtimes	
Is the site a pote	ential problem area?			Ye	es 🗆	No		
Check all that a	pply:				· · · · · · · · · · · · · · · · · · ·		***************************************	
□ v	egetation alone presumed	adequate to delineate	BVW: fill out \$	Section I only				
⊠ v	egetation and other indicate	ors of hydrology used	to delineate B	VW boundary	: fill out Section	ns I and II		
	Method other than dominanc	e test used (attach ad	ditional inform	ation)				
		Section I	. Vegetation			***************************************	***************************************	
Strata	Plant Species	Scientific	Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indictor Category*	
Trees	White Pine	Pinus strobus	Pinus strobus		52	Y	FACU	
	White Oak	Quercus alba		38	31	Y	FACU-	
	Red Maple	Acer rubrum		20.5	17	N		
Sapling	White Pine	Pinus strobus		63	100	Y	FACU	
Shrub	Speckled Alder	Vaccininum con	/mbosum	85	60	Y	FACW+*	
	Shagbark Hickory	Carya ovata		10.5	7	N		
	Flowering Dogwood	Comus florida		10.5	7	N		
	Black Cherry	Prunus Serotina		38	28	Υ	FACU	
Herbs	Highbush Blueberry	Vaccinium coryl	osum	20.5	25	Υ	FACW*	
	Starflower	Trientalis boreal	is	10.5	13	Y	FAC*	
	Poison Ivy	Toxicodendron i	radicans	10.5	13	Y	FAC*	
	Flowering Dogwood	Comus florida		10.5	13	Υ	FACU-	
	Wild Geranium	Geranium macu	latum	10.5	13	Y	FACU	
	Cinnamon Fern	Osmunda cinna		20.5	25	Y	FACW*	
FAC, FAC+, FAC	o mark wetland indicator plants: pla W-, FACW, FACW+, or OBL; or pla orphological adaptations, describe	nts with physiological or m	orphological adapt	ct (MGL c.131, s. ations. If any pla	40); plants in the g nts are identified a	enus Sphagnum is wetland Indica	; plants listed as tor plants due to	
		Vegetatio	Conclusion	and the second	and a Williams and a second			
Number of domi	nant wetland indicator plant	s: 5	Number of d	ominant non-	wetland indicat	or plants: 6		
Is the number of	f dominant wetland plants ed	qual to or greater thar	the number o	f dominant no	n-wetland plar	nts? Yes		
Percent of domin	nant wetland plants vs. non-	wetland plants:	45%					

		Section II. Soil	Information		
		Soil Su	rvey	**************************************	
Is there a published so	oil survey for this site? Ye	es	Sketch:	180)4-118-1-30-1	
Title/date: NRCS W	leb Soil Survey 2.0				
Map number:					
Soil type mapped:	Windsor loamy sand (11A)				
Hydric soil inclusions:			8.444		
Are field observations	consistent with soil survey?	Yes			
		Soil Profile D	escription		
Soil Horizon	Depth - Inches	Color	Soil Texture	Soil Mottling	Comments
Oi	0-1	10YR 3/1		***************************************	
Α	1-5	7.5YR 3/3	Sandy loam	### ### ### ### ######################	
B1	5-10	10YR 5/6	Fine sandy loam		***************************************
B2	10-20	10YR 6/6	Very fine sandy loam		
	Hydric Soil Ir	ndicators: check	all that apply and desc	ribe	
☐ Histos	ol:			V9001-10	
☐ Histic I	Epipedon:			- Value of the control of the contro	
☐ Sulfidio	Odor:				7.4 - L
☐ Aquic I	Moisture Regime:				Name of the State
Reduc	ing Conditions:				
☐ Concre	etions:		***************************************		
☐ High C	rganic Content in Surface L	ayer of Sandy Soil	s:		
☐ Listed	on Local Hydric Soils List:		MANAGE SHERRING AND		PORANGENEL - NUMBER OF THE RES
☐ Listed	on National Hydric soils List	:		<u> </u>	
☐ Other:					
		Remarks:	None		
Mottles: c = common, r	na= many, m = medium, co	= coarse, d = disti	nct, p = prominent		
		Section III. H	ydrology		
- 1 7 2 1 2 will 1 - 1 - 1	Indicators of F	lydrology: check	all that apply and desc	ribe	
☐ Site int	ındated:		TO SHE SHOW A PROPERTY OF THE PARTY OF THE P		
☐ Depth t	o free water in observation	hole:			
☐ Depth t	o soil saturation in observat	ion hole:			
☐ Water r	marks:	***************************************	-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		

☐ Drift lines:				V-18-18-18-18-18-18-18-18-18-18-18-18-18-			
Sediment deposits:				***************************************			
☐ Drainage patterns in Wetland:							
Oxidized rhizospheres:							
☐ Water-stained leaves:			V.	Valle 1			
Recorded data (stream, lake or tidal gauge; aerial photo; other):							
☐ Other:							
Vegetation and Hydrology Conclusion	on						
Number of wetland indicator plants ≥ number of non-wetland indicator plants?	yes		no	\boxtimes			
Hydric soil present?	yes		no	Ø			
Other indicators of hydrology present?	yes		no	Ø			
Sample location is in a Wetland? yes \(\square\) no \(\square\)							
Section IV. Atypical Situations							
Vegetation							
Type of Alteration:							
Effect on Vegetation:							
Previous Vegetation:							
Soils			333				
Type of Alteration:							
Effects on Soils:							
Previous Soils:							
Hydrology							
Type of Alteration:							
Effects on Hydrology:							
Previous Hydrology:							

Applicant / Ow	ner: Tennessee Gas Pipeli	ne Company (Tennessee)		Plot ID:	Wetland 1	******	
Project / Site:	Concord Expansion Project	t – Off Industrial Park Roa	ad .	Transe	ct ID: WF A-42	2	
County: Hillsh	orough	State: New Hampshire	***	Community ID: Wetland			
Investigator: J	ohn Zimmer (ENSR)			Date of	Delineation: 0	7/11/07	
Do normal circ	umstances exist onsite?		100	Ye	es 🛛	No	
Is the site signi	ificantly disturbed (Atypical si	ituation)?		Ye	es 🗆	No	\boxtimes
Is the site a po	tential problem area?	to		Ye	es 🗆 📗	No	\boxtimes
Check all that a	apply:		WATER CO.	L			
	Vegetation alone presumed a	adequate to delineate BVW	fill out Secti	on I only			
	Vegetation and other indicate	ors of hydrology used to deli	ineate BVW	boundary	: fill out Section	ns I and II	
	Method other than dominanc						
		Section I. Vege	etation				
Strata	Plant Species	Scientific Name		Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indictor Category*
Trees	White Pine	Pinus strobus		3	6.8	N	FACU
	*Red Maple	Acer rubrum		38	86.3	Υ	FAC
	*American Elm	Ulmus americana		3	6.8	N	FACW-
Sapling	Red Oak	Quercus rubra		38	50	Y	FACU-
	Black Cherry	Prunus serotina		38	50	Y	FACU
Shrub	*Speckled Alder	Alnus rugosa		63	60.6	Y	FACW+
	Flowering Dogwood	Comus florida		20.5	19.7	N	FACU-
	*Northern Arrow-wood	Viburnum recognitum		20.5	19.7	N	FACW-
Herbs	*Cinnamon Fern	Osmunda cinnamomea	a	38	32.3	Υ	FACW
	*Meadow Rue	Thalictrum dioicum		10.5	8.9	N	FAC
	*Marsh Fern	Thelypteris simulate		38	32.3	Y	FACW
	*Sensitive Fern	Onoclea sensibilis		20.5	17.4	N	FACW
	*Deer Tongue	Dichanthelium cladesti		10.5	8.9	N	FAC+
TAG, FAGT, FAC	o mark wetland indicator plants: plai CW-, FACW, FACW+, or OBL; or plai norphological adaptations, describe t	nis with physiological or morpholog	otection Act (MG ical adaptations.	GL c.131, s.4 . if any plai	40); plants in the go nts are identified as	enus Sphagnum; s wetland indicat	plants listed as for plants due to
		Vegetation Cond	lusion				
Number of dom	inant wetland indicator plants	s: 4 Num	ber of domin	ant non-v	vetland indicate	or plants: 2	****
s the number o	f dominant wetland plants eq	qual to or greater than the nu	ımber of don	ninant no	n-wetland plan	ts? Yes	**************************************
Percent of domi	nant wetland plants vs. non-	wetland plants: 83%		-			

			Continu II Caille				
	Valorial en verdidad de da		Section II. Soil I		on		
			Soil Sur	vey .			Marketin Co.
Is there a p	Web Soil	Survey for this site? Yourvey Data for Hills art and Rockingham	es borough County, County, NH [Acc	NH; essed	Sketch:		
Map numbe	er: NA						
Soil type m	apped: san	ndsor loamy sand ("\ ndy loam ("Pu") and sB")					
Hydric soil	inclusions:	Yes					
Are field ob	servations cor	nsistent with soil survey?	Yes				
			Soil Profile De	scription			
Soil	Horizon	Depth - Inches	Color	Soil	Texture	Soil Mottling	Comments
	Oi	0-5	10YR 2/1	Fi	ibrus	NA	Leaves/roots
	A1	6-16	7.5YR 2.5/1	Silty	/ Loam	NA	Some roots
	A2 16-20+		10YR 2/1	Silty	/ Loam	2.5Y 7/2	mmd
		Hydric Soil I	ndicators: check a	II that app	ply and des	cribe	· · · · · · · · · · · · · · · · · · ·
	Histosol:		ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ	WW			
	Histic Epi	pedon:					10 10 10 10 10 10 10 10 10 10 10 10 10 1
	Sulfidic O	dor:			~~~		
	Aquic Moi	isture Regime:			27,274		
	Reducing	Conditions:		AND PROTECTION OF A LAWY			2017-02-40-40-1
	Concretio	ns:					W 14 to www.htm.
	High Orga	anic Content in Surface I	ayer of Sandy Soils	S			
	Listed on	Local Hydric Soils List:					
	Listed on	National Hydric soils Lis	t:				
	Other:						
			Remarks:	Vone			
Mottles: c =	common, ma-	= many, m = medium, co	o = coarse, d = distin	ct, p=pro	ominent		The state of the s
NI.	December 1997	Manual - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Section III. Hy	drology			
		Indicators of I	Hydrology: check a	all that ap	ply and des	scribe	
	Site inund	ated:		o armivimus e c. 1			
\boxtimes	Depth to f	ree water in observation	hole: 20+ inches				
\boxtimes	Depth to s	soil saturation in observa	tion hole: 10 inch	nes	A CHICAGO		

	Water marks:				
	Drift lines:	·			
	Sediment deposits:			115-105	*****
	Drainage patterns in Wetland:				
\boxtimes	Oxidized rhizospheres:				
\boxtimes	Water-stained leaves:		WHAT IN WATER	***************************************	
\boxtimes	Recorded data (stream, lake or tidal gauge; aerial photo; other):	Beaver	Brook		
	Other:	The second secon			
	Vegetation and Hydrology Conclusi	on			
Number of v	vetland indicator plants ≥ number of non-wetland indicator plants?	yes	×	no	\boxtimes
Hydric soil p	present?	yes	\boxtimes	no	
Other indicators of hydrology present?			\boxtimes	no	
Sample loca	ation is in a Wetland?	yes	\boxtimes	no	×
	Section IV. Atypical Situations				
Vegetation		444			ANNAL COMMAND
Type of Alte	ration:				VI
Effect on Ve	egetation:				
Previous Ve	getation:			Dec. 22. Concerns	
Soils		N			
Type of Alte	ration:				
Effects on S	oils:		×		
Previous So	ils:				HE
Hydrology					
Type of Alte	ration:		C. Million (Systems		
Effects on H	ydrology:			***************************************	
Previous Hy	drology:				

Applicant / Owi	ner: Tennessee Gas Pip	eline Company (Teni	nessee)	Plot ID:	Wetland A		
Project / Site:	Concord Expansion Pro	ject – Laconia Meter	Station	Transec	t ID: WF A-9		N
County: Merrin	mack	State: New Hamps	shire	Commu	nity ID: Uplar	nd	The Contract of the Contract o
Investigator: J	ohn Zimmer (ENSR)		White the same of	Date of	Delineation: 0	1/10/08	
Do normal circu	umstances exist onsite?			Ye	s 🛛	No	
Is the site signi	ficantly disturbed (Atypica	I situation)?		Ye	es 🗆	No	MANUFACTURE CO.
Is the site a pot	lential problem area?			Ye	es 🗆	No	
Check all that a	apply:						
	Vegetation alone presume	ed adequate to delinea	te BVW: fill ou	t Section I only	WY PANCES		
	/egetation and other indic				: fill out Section	ns I and II	
	Method other than domina				021 00010	no i una ii	
		The state of the s	I. Vegetation				
Strata	Plant Species		fic Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indictor
Trees	White Pine	Pinus strobus		85.5	100	Y	FACU
Sapling	White Pine	Pinus strobus		38	64	Y	FACU
	Eastern Hemlock	Tsuga canade	nsis	20.5	35	Υ	FACU
Shrub	Black Cherry	Prunus serotin	а	20.5	50	Υ	FACU
	White Pine	Pinus strobus		20.5	50	Υ	FACU
	o mark welland indicator plants: SW-, FACW, FACW+, or OBL; or norphological adaptations, descri			Act (MGL c.131, s.e aptations. If any pla	1 (10); plants in the g nts are identified a	enus Sphagnum; s wetland indicat	plants listed as or plants due to
			on Conclusio	n			
Number of domi	inant wetland indicator pla	ants: 0	Number of	dominant non-v	vetland indicat	or plants: 5	
Is the number of	f dominant wetland plants	equal to or greater that				0.5	
	nant wetland plants vs. no		0%				

Solitor Sol				Section II. Soil I	nformation	***************************************	
Title/date: NRCS Web Soil Survey 2.0 Map number: Soil type mapped: Sunce to leasing fine sandy (2A) Hydric soil inclusions: Soil Profile Description Soil Profile Description Soil Morizon Depth - Inches Color Soil Texture Soil Mottling Comments B1 0 - 6 2 Syrk 5/1 Slity loam Comments B2 14-24 10YR 5/6 Sandy loam Comments Hydric Soil Indicators: check all that apply and describe Hydric Soils List: Color: Color				Soil Sur	vey		
Soil type mapped: Suncck loamy fine sandy (2A) Hydric soil inclusions: Are field observations consistent with soil survey? No Soil Horizon Depth - Inches Color Soil Texture Soil Mottling Comments A	Is there a	oublished soil su	rvey for this site? Y	es	Sketch:	**************************************	
Soil type mapped: Suncock loamy fine sandy (2A)	Title/date:	NRCS Web	Soil Survey 2.0				
Are field observations consistent with soil survey? No Soil Horizon Depth - Inches Color Soil Texture Soil Mottling Comments A 0-6 2.5YR 5/1 Sitty loam B1 6.14 10YR 6/4 Sandy loam B2 14-24 10YR 5/6 Sandy loam Hydric Soil Hotloors: check all that apply and describe Histosol: Histosol: Aquic Modisture Regime: Aquic Modisture Regime: High Organic Content in Surface Layer of Sandy Soils: Listed on Local Hydric Soils List: Check all that apply and describe Remarks: None Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to soil saturation in observation hole:	Map numb	er:					
Are field observations consistent with soil survey? No Soil Profile Description Soil Horizon Depth - Inches Color Soil Texture Soil Mottling Comments A 0 - 6 2.5YR 5/1 Silty loam B1 6-14 10YR 6/4 Sandy loam B2 14-24 10YR 5/6 Sandy loam Hydric Soil Indicators: check all that apply and describe Histosol: Histic Epipedon: Sulfidic Odor: Aquic Moisture Regime: Reducing Conditions: High Organic Content in Surface Layer of Sandy Soils: Listed on Local Hydric Soils List: Cother: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to soil saturation in observation hole: Ginches - delineation following snowmelt	Soil type m	napped: Sund	ook loamy fine sand	/ (2A)			
Soil Profile Description Soil Horizon Depth - Inches Color Soil Texture Soil Mottling Comments A 0-6 2.5YR 5/1 Silty loam B1 6-14 10YR 6/4 Sandy loam B2 14-24 10YR 5/6 Sandy loam Hydric Soil Indicators: check all that apply and describe Histosol: Histic Epipedon: Sulfidic Odor: Aquic Moisture Regime: Reducing Conditions: Concretions: High Organic Content in Surface Layer of Sandy Soils: Listed on Local Hydric Soils List: Listed on National Hydric soils List: Cother: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: G inches - delineation following snowmelt	Hydric soil	inclusions:					
Soil Horizon Depth - Inches Color Soil Texture Soil Mottling Comments A	Are field of	oservations cons	sistent with soil survey?	No			
A 0-6 2.5YR 5/1 Silty loam B1 6-14 10YR 6/4 Sandy loam B2 14-24 10YR 5/6 Sandy loam Hydric Soil Indicators: check all that apply and describe Histosol: Histic Epipedon: Sulfidio Odor: Aquic Moisture Regime: Reducing Conditions: Concretions: High Organic Content in Surface Layer of Sandy Soils: Listed on Local Hydric Soils List: Listed on National Hydric soils List: Other: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: Ginches - delineation following snowmelt Water marks:				Soil Profile De	scription		
B1 6-14 10YR 6/4 Sandy loam B2 14-24 10YR 5/6 Sandy loam Hydric Soil Indicators: check all that apply and describe Histosol: Histic Epipedon: Sulfidic Odor: Aquic Moisture Regime: Reducing Conditions: Concretions: High Organic Content in Surface Layer of Sandy Soils: Listed on Local Hydric Soils List: Listed on National Hydric soils List: Cother: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Ginches - delineation following snowmelt Water marks:	Soil	Horizon	Depth - Inches	Color	Soil Texture	Soil Mottling	Comments
B2 14-24 10YR 5/6 Sandy loam Hydric Soil Indicators: check all that apply and describe Histosol: Histic Epipedon: Sulfidic Odor: Aquic Moisture Regime: Concretions: High Organic Content in Surface Layer of Sandy Soils: Listed on Local Hydric Soils List: Cisted on National Hydric soils List: Cother: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: G inches – delineation following snowmelt Water marks:		A	0-6	2.5YR 5/1	Silty loam		
Hydric Soil Indicators: check all that apply and describe Histic Epipedon:		B1	6-14	10YR 6/4	Sandy loam		
Histosol: Histic Epipedon: Sulfidic Odor: Aquic Moisture Regime: Reducing Conditions: Concretions: High Organic Content in Surface Layer of Sandy Soils: Listed on Local Hydric Soils List: Listed on National Hydric soils List: Other: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: 6 inches – delineation following snowmelt		B2	14-24	10YR 5/6	Sandy loam		
☐ Histic Epipedon: ☐ Sulfidic Odor: ☐ Aquic Moisture Regime: ☐ Reducing Conditions: ☐ Concretions: ☐ High Organic Content in Surface Layer of Sandy Soils: ☐ Listed on Local Hydric Soils List: ☐ Other: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: 6 inches – delineation following snowmelt Water marks:			Hydric Soil I	ndicators: check a	Il that apply and des	cribe	
□ Sulfidic Odor: □ Aquic Moisture Regime: □ Reducing Conditions: □ Concretions: □ High Organic Content in Surface Layer of Sandy Soils: □ Listed on Local Hydric Soils List: □ Other: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: □ Depth to free water in observation hole: □ Depth to soil saturation in observation hole: □ Depth to soil saturation in observation hole: □ Water marks:		Histosol:					
Aquic Moisture Regime: Reducing Conditions: Concretions: High Organic Content in Surface Layer of Sandy Soils: Listed on Local Hydric Soils List: Listed on National Hydric soils List: Other: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: Water marks:		Histic Epipe	edon:				
Reducing Conditions: Concretions: High Organic Content in Surface Layer of Sandy Soils: Listed on Local Hydric Soils List: Cother: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: Water marks:		Sulfidic Ode	or:				Harrist Control of the Control of th
Concretions: High Organic Content in Surface Layer of Sandy Soils: Listed on Local Hydric Soils List: Cother: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: Water marks:		Aquic Mois	ture Regime:		An extension of a second		
High Organic Content in Surface Layer of Sandy Soils: Listed on Local Hydric Soils List: Disted on National Hydric soils List: Other: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: G inches – delineation following snowmelt Water marks:		Reducing C	onditions:				
Listed on Local Hydric Soils List: Listed on National Hydric soils List: Other: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: Mater marks:		Concretions	X				
□ Listed on National Hydric soils List : □ Other: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe □ Site inundated: □ Depth to free water in observation hole: □ Depth to soil saturation in observation hole: □ Water marks: Water marks:		High Organ	ic Content in Surface L	ayer of Sandy Soils		**************************************	
Other: Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: Water marks:		Listed on Lo	ocal Hydric Soils List:				
Remarks: None Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: 6 inches – delineation following snowmelt Water marks:		Listed on N	ational Hydric soils List				
Mottles: c = common, ma= many, m = medium, co = coarse, d = distinct, p = prominent Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: Water marks:		Other:			are a smill and the smill and the smill are a smill and the smill are a smill	THE PARTY OF THE P	
Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: Water marks:				Remarks: N	lone		
Section III. Hydrology Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: Water marks:				A	And the same of th		
Indicators of Hydrology: check all that apply and describe Site inundated: Depth to free water in observation hole: Depth to soil saturation in observation hole: Water marks:	Mottles: c =	common, ma= 1	nany, m = medium, co	= coarse, d = distinc	t, p = prominent		
 ☐ Site inundated: ☐ Depth to free water in observation hole: ☐ Depth to soil saturation in observation hole: 6 inches – delineation following snowmelt ☐ Water marks: 				Section III. Hyd	drology		
 ☐ Site inundated: ☐ Depth to free water in observation hole: ☐ Depth to soil saturation in observation hole: 6 inches – delineation following snowmelt ☐ Water marks: 			Indicators of H	lydrology: check a	II that apply and des	cribe	
☐ Depth to soil saturation in observation hole: 6 inches – delineation following snowmelt ☐ Water marks:		Site inundat					
Water marks:		Depth to free	e water in observation l	hole:		Throws Service with the service of t	
☐ Water marks:		Depth to soi	saturation in observat	ion hole; 6 inche	s - delineation following	ng snowmelt	
☐ Drift lines:		Water marks	»:				***************************************
		Drift lines:		· · · · · · · · · · · · · · · · · · ·			

	Sediment deposits:		2712		*******			
	Drainage patterns in Wetland:		All the second second					
	Oxidized rhizospheres:							
	Water-stained leaves:							
	Recorded data (stream, lake or tidal gauge; aerial photo; other):	III	- 5000 - 1/c	T				
	Other:							
	Vegetation and Hydrology Conclusi	ion						
Number of	wetland indicator plants ≥ number of non-wetland indicator plants?	yes		no	\boxtimes			
Hydric soil	present?	yes		no	\boxtimes			
Other indica	ators of hydrology present?							
Sample location is in a Wetland?				X				
	Section IV. Atypical Situations							
Vegetation								
Type of Alte	ration:	X rescuire sommitteer						
Effect on Ve	getation:							
Previous Ve	getation;	72.0 February 1990.2						
Soils								
Type of Alte	ration:							
Effects on S	oils:							
Previous So	ils:				***************************************			
Hydrology								
Type of Alte	ration:							
Effects on H	ydrology:				1997.99			
Previous Hy	drology:		THE SALES		(100 12 No. 10 10 10 10 10 10 10 10 10 10 10 10 10			

Applicant / Own	er: Tennessee Gas Pipe	eline Company (Tenne	essee)	Plot ID:	Wetland A				
Project / Site: Concord Expansion Project - Off Broken Bridge Road				Transec	Transect ID: WF A-9				
County: Merrin	nack	State: New Hampst	nire	Commu	nity ID: Wetla	nd			
Investigator: Jo	ohn Zimmer (ENSR)	2		Date of	Delineation: 01	1/10/08			
Do normal circu	mstances exist onsite?			Ye	s 🛛	No			
Is the site signifi	icantly disturbed (Atypical	situation)?		Ye	s 🗆	No	\boxtimes		
Is the site a pote	ential problem area?			Ye	s 🗆	No	Ø		
Check all that a	pply:								
	egetation alone presume	d adequate to delineate	BVW: fill out	Section I only					
⊠ v	egetation and other indicate	ators of hydrology used	to delineate	BVW boundary	: fill out Section	ns I and II			
	Method other than domina								
***		Section	I. Vegetation			Water Williams			
Strata	Plant Species	Scientific	c Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indictor Category*		
Trees	Red Maple	Acer rubrum		63	75	Υ	FAC*		
	White Pine	Pinus strobus		20.5	26	Υ	FACU		
Sapling	Red Maple	Acer rubrum		20.5	66	Υ	FAC*		
4.000	Eastern Hemlock	Tsuga canaden	ısis	10.5	34	Y	FACU		
Shrub	Red Maple	Acer rubrum		38	100	Υ	FAC*		
FAC, FAC+, FAC	o mark wetland indicator plants: W-, FACW, FACW+, or OBL; or norphological adaptations, descri	plants with physiological or n	norphological ada	Act (MGL c.131, s. ptations. If any pla	40); plants in the g nts are identified a	enus Sphagnum is wetland indica	plants listed as for plants due to		
- Kn-Immakemin		The second secon	n Conclusion	n					
Number of domi	nant wetland indicator pla	ints: 3	Number of	dominant non-	wetland indicat	or plants: 2			
Is the number of	f dominant wetland plants	equal to or greater tha	n the number	of dominant no	n-wetland plan	nts? Yes	- Interior		
	nant wetland plants vs. no		60%						

			Section II. Soil I	nformation				
			Soil Surv	/ey				
Is there a	oublished soil sur	rvey for this site? Ye	S	Sketch:		AND THE RESERVE OF THE PERSON		
Title/date:	Title/date: NRCS Web Soil Survey 2.0							
Map numb	er:							
Soil type m	napped: Sunc	ook loamy fine sandy	(2A)					
Hydric soil	inclusions:							
Are field of	oservations cons	istent with soil survey?	Yes		and the second s	W		
	5.00		Soil Profile De	scription				
Soil	Horizon	Depth - Inches	Color	Soil Texture	Soil Mottling	Comments		
	A	0-11	10YR 7/2	Silty loam				
	Bw1	11-17	10YR 3/2	Sandy loam	7.5YR 5/4			
	Bw2	17+	10YR 4/2	Sandy loam	10YR 5/6	***************************************		
		Hydric Soil In	dicators: check a	Il that apply and des	scribe			
	Histosol:							
	Histic Epipe	edon:						
	Sulfidic Odd	or:						
	Aquic Moist	ure Regime:		7,000	The summer of the same of the			
	Reducing C	conditions:				***************************************		
	Concretions	S:	Section 1					
	High Organ	ic Content in Surface L	ayer of Sandy Soils	1				
	Listed on Lo	ocal Hydric Soils List:						
	Listed on N	ational Hydric soils List	:					
	Other:							
			Remarks: N	Vone				
Mottles: c =	common, ma= 1	many, m = medium, co	= coarse, d = distin	ct, p = prominent				
			Section III. Hy	drology				
		Indicators of H	ydrology: check a	all that apply and de	scribe			
	Site inundat	ed:						
\boxtimes	Depth to fre	e water in observation	hole: 11 Inches					
\boxtimes	Depth to soi	Depth to soil saturation in observation hole: Surface						
	Water marks:							
	Drift lines:	Drift lines:						

□ Drainage patterns in Wetland: □ Oxidized rhizospheres: ☑ Water-stained leaves: □ Recorded data (stream, lake or tidal gauge; aerial photo; other): □ Other: Vegetation and Hydrology Conclusion Number of wetland indicator plants ≥ number of non-wetland indicator plants? yes ☑ no □ Hydric soil present? yes ☑ no □ Other indicators of hydrology present? yes ☑ no □ Sample location is in a Wetland? yes ☑ no □ Section IV. Atypical Situations Vegetation Type of Alteration: Effect on Vegetation: Soils Type of Alteration: Effects on Soils: Previous Soils: Hydrology Type of Alteration: Type of Alteration: Type of Alteration: Frevious Soils: Hydrology Type of Alteration: Effects on Soils: Type of Alteration: Type of Alteration: Type of Alteration: Frevious Soils: Hydrology Type of Alteration:		Sediment deposits:	, , , , , , , , , , , , , , , , , , ,	Delining lines and the					
		Drainage patterns in Wetland:							
Recorded data (stream, lake or tidal gauge; aerial photo; other): Other: Vegetation and Hydrology Conclusion Number of wetland indicator plants ≥ number of non-wetland indicator plants? Hydric soil present? Other indicators of hydrology present? Sample location is in a Wetland? Section IV. Atypical Situations Vegetation Type of Alteration: Effect on Vegetation: Previous Vegetation: Soils Type of Alteration: Effects on Soils: Frevious Soils: Hydrology		Oxidized rhizospheres:							
Other: Vegetation and Hydrology Conclusion Number of wetland indicator plants ≥ number of non-wetland indicator plants? yes ⊠ no □ Hydric soil present? yes ⊠ no □ Other indicators of hydrology present? yes ⊠ no □ Sample location is in a Wetland? yes ⊠ no □ Section IV. Atypical Situations Vegetation Type of Alteration: Effect on Vegetation: Previous Vegetation: Type of Alteration: Effects on Soils: Frevious Soils: Hydrology	\boxtimes	Water-stained leaves:							
Vegetation and Hydrology Conclusion Number of wetland indicator plants ≥ number of non-wetland indicator plants? yes No Image: section of the plants of the		Recorded data (stream, lake or tidal gauge; aerial photo; other):	ere al la maine micro. Vi						
Number of wetland indicator plants ≥ number of non-wetland indicator plants? Hydric soil present? Other indicators of hydrology present? Sample location is in a Wetland? Section IV. Atypical Situations Vegetation Type of Alteration: Effect on Vegetation: Previous Vegetation: Soils Type of Alteration: Effects on Soils: Previous Soils: Hydrology		Other:							
Hydric soil present? yes ⊠ no □ Other indicators of hydrology present? yes ⊠ no □ Sample location is in a Wetland? yes ⊠ no □ Section IV. Atypical Situations Vegetation Type of Alteration: Effect on Vegetation: Previous Vegetation: Soils Type of Alteration: Effects on Soils: Previous Soils: Hydrology		Vegetation and Hydrology Conclusion	n						
Other indicators of hydrology present? Sample location is in a Wetland? Section IV. Atypical Situations Vegetation Type of Alteration: Effect on Vegetation: Previous Vegetation: Type of Alteration: Effects on Soils: Hydrology	Number of v	wetland indicator plants ≥ number of non-wetland indicator plants?	yes	\boxtimes	no				
Sample location is in a Wetland? Section IV. Atypical Situations Vegetation Type of Alteration: Effect on Vegetation: Previous Vegetation: Type of Alteration: Effects on Soils Type of Alteration: Hydrology	Hydric soil p				no				
Section IV. Atypical Situations Vegetation Type of Alteration: Effect on Vegetation: Previous Vegetation: Soils Type of Alteration: Effects on Soils: Previous Soils: Hydrology	Other indica	Other indicators of hydrology present?			no				
Vegetation Type of Alteration: Effect on Vegetation: Previous Vegetation: Soils Type of Alteration: Effects on Soils: Previous Soils: Hydrology	Sample loca	Sample location is in a Wetland?			no				
Type of Alteration: Effect on Vegetation: Previous Vegetation: Soils Type of Alteration: Effects on Soils: Previous Soils: Hydrology		Section IV. Atypical Situations	1						
Effect on Vegetation: Previous Vegetation: Soils Type of Alteration: Effects on Soils: Previous Soils: Hydrology	Vegetation				ALOREA CHERT PRODUCTION				
Previous Vegetation: Soils Type of Alteration: Effects on Soils: Previous Soils: Hydrology	Type of Alte	ration:							
Soils Type of Alteration: Effects on Soils: Previous Soils: Hydrology	Effect on Ve	getation:	######################################			West of the second			
Type of Alteration: Effects on Soils: Previous Soils: Hydrology	Previous Ve	getation:		me - d ecomm					
Effects on Soils: Previous Soils: Hydrology	Soils		****						
Previous Soils: Hydrology	Type of Alte	ration:	· · · · · · · · · · · · · · · · · · ·			·			
Hydrology	Effects on S	oils:							
	Previous So	ils:	31000						
Type of Alteration:	Hydrology			****	T	· · · · · · · · · · · · · · · · · · ·			
	Type of Alte	ration:							
Effects on Hydrology:	Effects on H	ydrology:							
Previous Hydrology:	Previous Hy	drology:			5.4.5 .1.5.	U 10202			

Applicant / Own	er: Tennessee Gas Pip	eline Company (Tenn	essee)	Plot ID:	Wetland B	- TO 41 11 11 11 11 11 11 11 11 11 11 11 11			
Project / Site: 0	Project / Site: Concord Expansion Project - Laconia Meter Station				Transect ID: WF B-3				
County: Merrin	nack	State: New Hamps	hire	Commu	Community ID: Upland				
Investigator: Jo	ohn Zimmer (ENSR)			Date of	Delineation: 0	1/10/08			
Do normal circu	mstances exist onsite?		****************	Ye	es 🛛	No			
Is the site signif	icantly disturbed (Atypica		Ye	es 🗌	No	Ø			
Is the site a pote	ential problem area?			Ye	s 🗆	No	THE RESERVE OF THE PERSON NAMED IN COLUMN 1		
Check all that a	pply:								
v	egetation alone presume	d adequate to delineate	e BVW: fill ou	t Section I only					
	egetation and other indic				: fill out Section	ns I and II	 		
	fethod other than domina								
		Section	I. Vegetation	1			*****		
Strata	Plant Species	Scientific	c Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indictor Category*		
Trees	White Pine	Pinus strobus		63	62	Y	FACU		
	Black Cherry	Prunus serotina	3	38	38	Y	FACU		
Sapling	White Pine	Pinus strobus	::::::::::::::::::::::::::::::::::::::	38	65	Y	FACU		
-1	Black Cherry	Prunus serotina	1	20.5	35	Y	FACU		
Shrub	Silky Dogwood	Comus amomu	m	10.5	34	Υ	FACW*		
	White Pine	Pinus strobus		20.5	66	Υ	FACU		
	mark wetland indicator plants: N-, FACW, FACW+, or OBL; or orphological adaptations, descri			Act (MGL c.131, s. aptations. If any plan	10); plants in the g nts are identified a	enus Sphagnum; s wetland indicat	plants listed as or plants due to		
		333	n Conclusio	n			**************************************		
Number of domir	nant wetland indicator pla	ints: 1	Number of	dominant non-v	vetland indicat	or plants: 5			
Is the number of	dominant wetland plants	equal to or greater that	n the number	of dominant no	n-wetland plan	ts? No			
	ant wetland plants vs. no		17%				- 10 L - 12 L		

		Section II. Soil	Information				
		Soil Sur	vey				
Is there a published soil s	urvey for this site? Ye	es	Sketch:				
Title/date: NRCS Web	Soil Survey 2.0			1			
Map number:							
Soil type mapped: Sur	cook loamy fine sandy	(2A)					
Hydric soil inclusions:							
Are field observations cor	nsistent with soil survey?	No					
		Soil Profile De	scription				
Soil Horizon	Depth - Inches	Color	Soil Texture	Soil Mottling	Comments		
Α	0-5	10YR 7/2	Loamy Sand		- CONTRACTOR		
B1	5-16	10YR 4/6	Sandy loam				
B2	16+	10YR 5/8	Sandy loam				
	Hydric Soil Ir	ndicators: check a	Il that apply and des	cribe			
☐ Histosol:				 			
☐ Histic Epi	pedon:						
☐ Sulfidic O	dor:						
☐ Aquic Moi	sture Regime:			TO THE RESERVE THE PARTY OF THE	*		
☐ Reducing	Conditions:						
☐ Concretion	ns:		THE TOTAL III THE TAX TAX TO THE				
☐ High Orga	nic Content in Surface L	ayer of Sandy Soils	:	Wallington Transcriptor			
☐ Listed on I	Local Hydric Soils List:						
☐ Listed on I	National Hydric soils List	:					
Other:					***************************************		
		Remarks: N	None				
Mottles: c = common, ma=	many, m = medium, co	= coarse, d = distin	ct, p = prominent				
		Section III. Hy		***************************************	- AND THE STATE OF		
	Indicators of H		all that apply and des	cribe			
☐ Site inunda		The second secon			ul St and		
	ee water in observation l	hole:			***************************************		
	Depth to soil saturation in observation hole:						
☐ Water man	Marie Williams		*	The second section of the second			
☐ Drift lines:		3	1. HWI 102 HAR - 244 CT - 1127 H 27 H 27 H				

	Sediment deposits:	W -11 - 1 - 1 - 1 - W -					
	Drainage patterns in Wetland:						
	Oxidized rhizospheres:						
	Recorded data (stream, lake or tidal gauge; aerial photo; other):						
	Other:						
	Vegetation and Hydrology Conclusion	on					
Number of	wetland indicator plants ≥ number of non-wetland indicator plants?	yes		no			
Hydric soil p	present?	yes		no	\boxtimes		
Other indica	Other indicators of hydrology present?			no	\boxtimes		
Sample loca	Sample location is in a Wetland?			no	\boxtimes		
	Section IV. Atypical Situations						
Vegetation		**************************************					
Type of Alte	ration:	X					
Effect on Ve	getation:			79.411.11			
Previous Ve	getation:						
Soils							
Type of Alte	ration:						
Effects on S	oils:		1000				
Previous So	ils:		ATTO HITTO AND	**********	· · · · · · · · · · · · · · · · · · ·		
Hydrology							
Type of Alte	ration:			*5 - 1 - 2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1			
Effects on H	ydrology:		- Information				
Previous Hy	drology;	, , , , , , , , , , , , , , , , , , , 					

Applicant / Ow	ner: Tennessee Gas Pipel	ine Company (Tenn	iessee)	Plot ID:	Wetland B				
Project / Site: Concord Expansion Project - Laconia Meter Station				Transec	Transect ID: WF B-3				
County: Merri	mack	State: New Hamps	shire	Commu	Community ID: Wetland				
Investigator: J	John Zimmer (ENSR)		Date of Delineation: 01/10/08						
Do normal circ	umstances exist onsite?				s 🛭	No	П		
Is the site signi	ificantly disturbed (Atypical s	situation)?			ıs П	No			
Is the site a po	tential problem area?		Yes 🗆		×				
Check all that a	apply:						KA		
	Vegetation alone presumed	adequate to delineat	te BVW; fill ou	t Section I only					
1222	Vegetation and other indicat				fill out Section	ns I and II			
	Method other than dominand					- Condition			
	The state of the s		I. Vegetation				* 		
Strata	Plant Species	Scientifi	ic Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indictor Category*		
Sapling	Red Maple	Acer rubrum		85.5	100	Y	FAC*		
Shrub	White Pine	Pinus strobus		10.5	33	Y	FACU		
	Northern Arrowwood	Viburnum reco		20.5	66	Y	FACW-*		
	to mark wetland indicator plants: pla CW-, FACW, FACW+, or OBL; or plants or phological adaptations, describe			Act (MGL c.131, s. aptations. If any plan	10); plants in the g nts are identified a	enus Sphagnum, s wetland indical	plants listed as for plants due to		
		Vegetatio	on Conclusion	n					
Number of dom	inant wetland indicator plan	ts: 2	Number of	dominant non-v	vetland indicati	or plants: 1			
Is the number o	of dominant wetland plants e	qual to or greater tha					·		
	inant wetland plants vs. non-		67%		77 THON WAS TRAINED.				

		Section II. Soil Ir	nformation		-
		Soil Surv	ev		
Is there a published soil su	rvey for this site? Y	es	Sketch:		
	Soil Survey 2.0		- OKCICII.		
Map number:					
Soil type mapped: Sund	ook loamy fine sand	y (2A)			
Hydric soil inclusions:					
Are field observations cons	sistent with soil survey?	Yes			
		Soil Profile Des	cription		
Soil Horizon	Depth - Inches	Color	Soil Texture	Soil Mottling	Comments
Α	0-13	7.5YR 2.5/1	Silty loam		
B1	13-21	10YR 4/2	Silty loam	10YR 5/4	
	Hydric Soil I	ndicators: check all	that apply and des	cribe	
☐ Histosol:		The state of the s	- White the Commission of the		
☐ Histic Epipe	edon:	THE WEST OF THE STATE OF THE ST			
Sulfidic Ode	or:	***			
☐ Aquic Mois	ture Regime:		100000000000000000000000000000000000000	HE was a series and	
☐ Reducing C	Conditions:		***************************************		
☐ Concretions	s:	74/1 11210			
☐ High Organ	ic Content in Surface L	ayer of Sandy Soils:			
☐ Listed on Le	ocal Hydric Soils List:	304-200			
☐ Listed on N	ational Hydric soils List	l;	V		
☐ Other:		- 1100m - 120 mass			
		Remarks: N	one		
				TO THE THE PARTY OF THE PARTY O	
Mottles: c = common, ma= 1	many, m = medium, co	= coarse, d = distinct	t, p = prominent		
		Section III. Hyd	rology		
	Indicators of H	lydrology: check al	I that apply and des	cribe	
☐ Site inundat	ed:			- White -	Halle
□ Depth to free	e water in observation	hole: 9 inches			
□ Depth to soi	I saturation in observat	ion hole: Surface			PAGE 10 10 10 10 10 10 10 10 10 10 10 10 10
☐ Water marks	S:				
☐ Drift lines:					
☐ Sediment de	posits:				

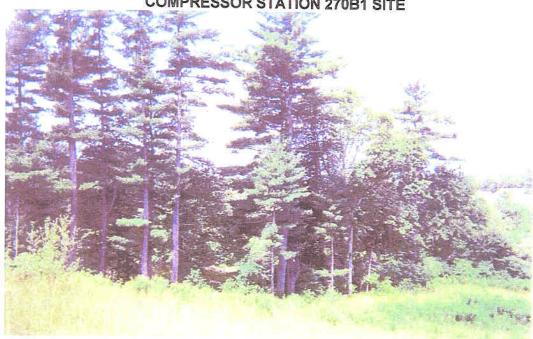
	Drainage patterns in Wetland:				- W - E - W - W - W - W - W - W - W - W
	Oxidized rhizospheres:				
	Water-stained leaves:				
	Recorded data (stream, lake or tidal gauge; aerial photo; other):		· · · · · · · · · · · · · · · · · · ·		
	Other:				
	Vegetation and Hydrology Conclusion	on			***************************************
Number of	wetland indicator plants ≥ number of non-wetland indicator plants?	yes	Ø	no	
Hydric soil (present?	yes	\boxtimes	no	
Other indica	ators of hydrology present?	yes	\boxtimes	no	
Sample location is in a Wetland?		yes	\boxtimes	по	
	Section IV. Atypical Situations				***
Vegetation					
Type of Alte	eration:	***********			
Effect on Ve	egetation:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			2.5
Previous Ve	egetation:		···		
Soils					- Westmins
Type of Alte	ration:	**************************************			
Effects on S	oils:	AND THE PROPERTY OF THE PARTY O		**************************************	
Previous So	ils:			Y-101	
Hydrology					
Type of Alte	ration:	***************************************		*****	
Effects on H	lydrology:	19.9990 - constant of Auto-Auto-Auto-Auto-Auto-Auto-Auto-Auto-			
Previous Hy	drology:				Material Company

APPENDIX C

WETLAND SITE PHOTOGRAPHS

CONCORD EXPANSION PROJECT SITE PHOTOGRAPHS

COMPRESSOR STATION 270B1 SITE



Entrance to Site from Industrial Park Road



Looking north toward ROW crossing of Beaver Brook. Beaver Brook in center of photo

COMPRESSOR STATION 270B1 SITE (CONTINUED)



Entrance of site looking south toward Industrial Park Road.



Wetland bordering Beaver Brook



Wetland Bordering Beaver Brook



Eastern end of Wetland Bordering Beaver Brook



Mixed Vegetation

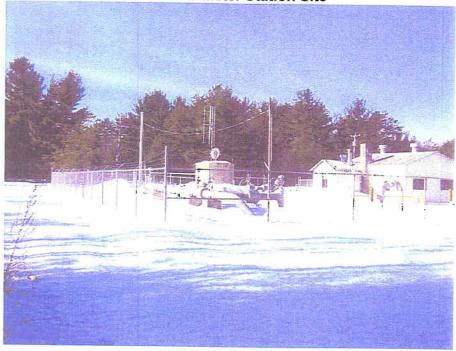


Herbaceous Groundcover



Mixed Vegetation

Laconia Meter Station Site



Laconia Meter Station from Broken Bridge Road Looking East

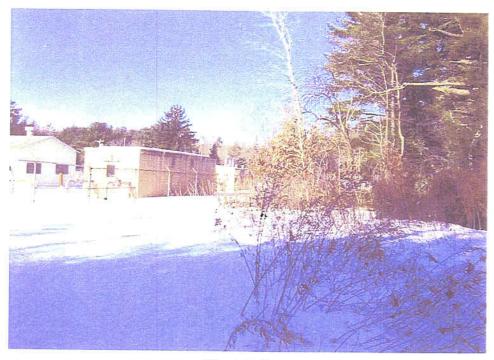


Laconia Meter Station - East of Broken Bridge Road Looking South





Laconia Meter Station Facing north



Wooded Fringe

Laconia Meter Station Site (Continued)



ROW and Wetland A - Looking North



Upland Slope Looking Southwest

Laconia Meter Station Site (Continued)



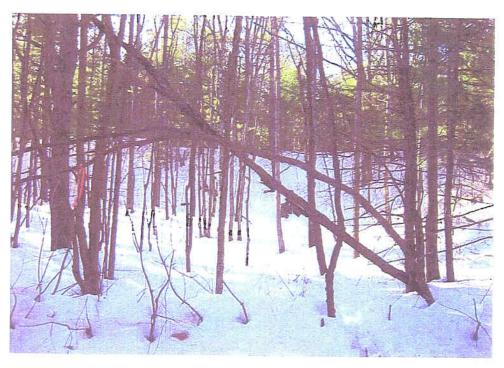
Wetland A Looking East



Wetland A – south of meter station looking east



Wetland A facing East



Wetland B facing north